

## NOTES ON *CONIANA SNOWI*, AN ACRIDID NEW TO THE UTAH LIST

Ernest R. Tinkham<sup>1</sup>

During the course of investigations on the "Environmental Relationships of Desert Sand Dune Biota", under a three-year summer grant with the National Science Foundation, the writer has recently studied, during the summer of 1958, many of the sand dune areas in western, southeastern and southwestern Utah.

The sand dune areas of extreme southwestern Utah, particularly, appear to be the only ones pertaining to the Great Sonoran Desert and, consequently, their faunal and floral affinities are with those of southern Nevada and southeastern California. On these dunes certain insects can be found that are restricted to southwestern Utah and some of these may be new to the Utah List. Such a one is *Coniana snowi* Caudell, one of the sand dune oedipodine Acridids. Its presence in Utah was first evident in early June of 1958, when a few small nymphs were found but these could not be reared through to maturity because of lack of the host plant. The first of these nymphs was found on June 12, three miles northwest of Santa Clara on a small sandy hill. The next day, on the brick red sands of what is here called the Hurricane Dunes that lie five miles west and five miles south by road of Hurricane, Utah, a few more were taken.

On August 6, during a research excursion through the Navajoland of northern Arizona and southeastern Utah, the writer took occasion to study the Hurricane Dunes again. The first rain in several months fell in the late evening wetting the sand to a depth of three inches. A good hike about sundown failed to reveal any *Coniana* in areas where nymphs had been found in June, although one female adult was taken elsewhere, just before dark, in the semistabilized sand areas that were dominated by large clumps of the beautiful bluish gray sage, *Artemisia filifolia* Torrey. No *Coniana* were found on the dunes that night during several hours of collecting by lantern light.

Next morning three or four males and females were taken during three hours of collecting between 8:30 and 11:30 a.m. The temperature at 8:30 was 76° F. but the considerable humidity after the rain made air conditions seem much hotter. At 10:45 with a slight cloudy overcast the air temperature was 86° but with the high humidity the air was very hot. At this time several *Coniana* were found on a low sandy ridge near the mouth of a sandy draw and were scared out of the protection afforded by the scant shade of a leguminous plant about one foot high known as *Euphorbia parryi* Engelm. The sand temperature under the plants was 98° F and *Coniana* found this microhabitat preferable to the open sand where the surface temperature was 104°. When the sun came out momentarily it seemed burning hot almost instantly and had such conditions existed for any length of time the sand surface temperature would have

<sup>1</sup> Indio, California

been much greater. As it was these sand temperatures were not as great as those tolerated by *Coniana snowi* on the Kelso Dunes or on the sand dunes of Coachella Valley of the Colorado Desert where they will squat some minutes on the sand with temperatures in excess of 118°.

In Coachella Valley and the Kelso Dunes *Coniana* prefers habitats of the low caespitose sand plant *Coldenia plicata* and when the sand temperatures become intolerable they climb or jump up on these low plants where the temperature one inch above the sand surface can be tolerated. On the Hurricant Dunes a few plants of *Coldenia canescens*, a plant common over much of the Great Chihuahan Desert is found, but apparently their spiny nature renders them unattractive to *Coniana*.

Later, that afternoon, the writer stopped at the small sandy hill, three miles northwest of Santa Clara, and collected a few more adults of *Coniana*. The area from one to three miles northwest is generally sandy and throughout this area *Coniana* should be found. In both sand dune areas *Coniana* was rare.

The author did not find *Coniana* at the Coral Pink Dunes which lie 13 miles southeast of Mt. Carmel Junction and about 15 miles northwest of Kanab. Although in southwestern Utah, these dunes lie at a high elevation of over 6000 feet and within the Pine Zone and hence are quite different floristically and faunistically. Their faunal and floral affinities seem to be more with those of southeastern Utah of what can be called the Desert of San Raphael, rather than with those of the Great Sonoran Desert.

These are the first records of this small ammophilous Acridid for Utah and *Coniana snowi* Caudell can now be added to the Utah list.

### **Hydrometra Martini found in Central Utah**

On 24 June, 1958 a specimen of *Hydrometra martini* Kirk was collected by the writer two miles east of Goshen, Utah. From all indications this is a new record for this family and species in the State of Utah. The specimen was taken among cat-tails, sedges and algae around the edges of a pond. The pond, one of several in the area is fed by hot springs. The temperature of the water in the ponds is 22.2° Centigrade. During the next three days the writer in company with Dr. Stephen L. Wood and Lee F. Braithwaite collected over 75 specimens including males, females and nymphs. Several mating pairs were placed in an aquarium for observation. One mating pair was placed alone and it was found that the female produced thirteen eggs. This determination is based on the key and other information on Hydrometridae found in Hungerford's article on "The Biology and Ecology of Aquatic and Semiaquatic Hemiptera", The Kansas Science Bull., Vol. XI, p. 91-99, 1919—Stanley K. Taylor.